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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,117	03/27/2001	Michael S. Choi	06558.011001	1929

22511 7590 03/19/2003

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EXAMINER	
KRECK, JOHN J	

ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 03/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/818,117	Applicant(s) CHOI, ET AL
	Examiner John Kreck	Art Unit 3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 February 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 March 2001* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 1/10/03 and 2/11/03 have been entered.

Specification

2. The disclosure is objected to because of the following informalities: in paragraph 50; the application number should be provided.

Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the web-framed steel structure must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by FR 2186955.

The FR document (see figure 2) shows an oil storage and offtake system comprising a storage tank (3) attached to the seabed (at 6) and adapted to store hydrocarbons; at least one fluid channel (7,8); at least one offload line (16); and at least one hawser (24) as called for in claim 1.

The FR tank is adapted to store hydrocarbons (27) on top of water (28) as called for in claim 2.

The FR reference also shows the second end (8) of the fluid channel away form the seabed as called for in claim 3.

The FR reference also shows the substantially rigid lower portion (below 15) and the flexible portion (above 15) as called for in claim 4.

The Fr document also shows the storage tank(3); offload line(16); and hawser (24) as called for in claim 30.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-9, 11-17, 20-22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hix, Jr. (U.S. Patent number 3,835,653) in view of Panicker, et al. (U.S. Patent number 4,182,584).

Hix shows an oil storage and offtake system comprising a storage tank (30) attached to the seabed and adapted to store hydrocarbons; at least one fluid channel (44); at least one offload line (38); Hix fails to show how the offload line extends to the surface, and thus fails to explicitly disclose a hawser as called for in claim 1.

Panicker teaches a system connecting a subsea source of hydrocarbons to the surface. The Panicker system includes a rigid top tensioned riser (12) with a flexible flowline (16); a subsurface buoyant device (15); a surface buoyant device (21); and a hawser (22). The Panicker document discloses that the riser system is advantageous because it can be used in deep water and is resistant to extreme weather.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the Hix tank with the riser system taught by Panicker; having a hawser coupled at one end to the tank at a location below the water surface and another end accessible from the surface as called for in claim 1; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 2; the Hix tank is adapted to store hydrocarbons on top of water as called for in claim 2.

The Hix reference also shows the second end of the fluid channel away form the seabed as called for in claim 3.

With regards to claim 4; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have included the rigid lower portion and flexible upper portion as shown by Panicker, and as called for in claim 4; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 5; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have included top tensioned riser as shown by Panicker, and as called for in claim 5; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 6; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have included the buoyant device as shown by Panicker, and as called for in claim 6; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 7; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have included the flexible portion coupled to the surface buoyant device as shown by Panicker, and as called for in claim 7; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 8; Panicker also shows the hawser coupled to the riser and the surface buoyant device and the hawser having a length less than the flexible

portion; thus it would have been further obvious to one of ordinary skill in the art at the time of the invention to have included the hawser coupled to the riser and the surface buoyant device and the hawser having a length less than the flexible portion as shown by Panicker, and as called for in claim 8; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 9; Panicker also shows the hawser coupled to the subsurface buoyant device; thus it would have been further obvious to one of ordinary skill in the art at the time of the invention to have included the hawser coupled to the subsurface buoyant device and the hawser having a length less than the flexible portion as shown by Panicker, and as called for in claim 9; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 11; the flexible flowline disclosed by Panicker is a hose; thus it would have been further obvious to one of ordinary skill in the art at the time of the invention to have included hose as shown by Panicker, and as called for in claim 11; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 12; Panicker teaches the subsurface buoyant device below a depth (18) affected by waves; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Hix tank to have included the buoyant device below a depth affected by waves at a selected storm magnitude as called for in claim 12; in order to provide for storage in deep water and/or extreme weather conditions.

Further, with regards to claims 13-16; Panicker clearly teaches the desirability of locating the buoyant device below a depth affected by waves, but fails to explicitly disclose a specific depth, or the depth below which can be affected by a specific storm magnitude. See Panicker, col. 1, line 28:

"Also, as is commonly known, a zone of turbulence due to surface and near surface conditions exists just below the surface. For a riser system to have an acceptable operational life, it must also have sufficient compliance within this zone to compensate for the turbulence without interrupting the operation of the riser system."

Panicker teaches the depth below which the buoyant device will be affected by waves; the specific depth or storm magnitude as claimed would have been obvious to one of ordinary skill in the art at the time of the invention. *See In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguishover the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case,would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).*

With regards to claim 17; Panicker teaches the buoyant device having an opening; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Hix tank to have included the buoyant device

having an opening as called for in claim 17; in order to provide for storage in deep water and/or extreme weather conditions.

With regards to claim 20; Hix teaches the weighing material.

With regards to claim 21; Hix teaches the weighing material comprises concrete (40); which inherently includes sand.

With regards to claim 22; Hix teaches the weighing material sufficient to overcome buoyant forces.

With regards to claims 24-26; Hix fails to explicitly disclose any dimensions. The various capacities and dimensions claimed in claims 24-26 would have been obvious to one of ordinary skill in the art at the time of the invention. *See In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguishover the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case,would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).*

6. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hix and Panicker as applied to claims 8 or 17 above, and further in view of Kentosh (U.S. Patent number 4,138,751).

The Hix and Panicker references fail to teach the coupling device allowing rotation of the hawser with respect to the riser or the flexible upper portion to rotate with respect to the riser.

Kentosh teaches that it is desirable in similar systems to include a coupling device allowing rotation of a hawser or flexible hose with respect to a riser; this is well known in the art, and is done in order to prevent torsion forces from affecting the riser.

It would have been further obvious to one of ordinary skill in the art at the time of the invention to have further modified the Hix system to have included a coupling device allowing rotation of the hawser with respect to the riser as called for in claim 10, or allowing rotation of the upper portion with respect to the riser as called for in claim 19; as taught by Kentosh, in order to prevent torsion forces from affecting the rigid riser.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hix and Panicker as applied to claim 17 above, and further in view of N'guyen Duc, et al. (U.S. Patent number 4,413,844)

The Hix and Panicker references fail to teach the coupling device allowing rotation of the buoyant device with respect to the riser.

The Nguyen Duc reference teaches that it is desirable in similar systems to include a the coupling device allowing rotation of the buoyant device; this is well known in the art, and is done in order to prevent torsion forces from affecting the riser.

It would have been further obvious to one of ordinary skill in the art at the time of the invention to have further modified the Hix system to have included the coupling

device allowing rotation of the buoyant device as called for in claim 18, as taught by Ngiyen Duc ;in order to prevent torsion forces from affecting the rigid riser.

1. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hix, Jr. in view of Anderson (U.S. Patent number 4,273,066).

Hix teaches an oil storage and off take system comprising a storage tank; at least one fluid channel in communication with the environment outside the tank and weighting material inside the tank. Hix shows a connection to the surface at 38, but fails to show any details such as tensioned riser, hawser, and coupling device.

Anderson shows a system for transporting oil from an underwater location to a tanker. (see figures 4 and 7a) The Anderson system includes a tensioned riser (32) coupled to a subsurface buoy (41); a flexible hose (44) in communication with the riser, the hose having a first end coupled to the riser and a second end coupled to a surface buoy (Col. 14, lines 20-40); a hawser having a first end coupled to the second end of the riser and a second end coupled to the surface buoy (Col. 14, lines 20-40), the hawser having a length less than the hose; and at least one coupling device (39) between the riser and hose to allow rotation. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Hix system to have included the tensioned riser; hose; mooring chain; surface buoy; and coupling device, as called for in claim 27, and as taught by Anderson, in order to allow the oil to be loaded onto a tanker.

With regards to claim 28, Hix teaches concrete (40) which comprises sand.

With regards to claim 29; Hix fails to teach the capacity or size; however it is well known to construct tanks based on expected operating parameters; thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have made the tank 200 feet by 200 feet and 150 feet tall and having a capacity of about 750000 barrels as called for in claim 29.

2. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hix and Panicker as applied to claim 1 above, and further in view of Phelps (U.S. Patent number 3,645,415).

Hix fails to disclose the web framed steel construction. Web framed steel construction is known for use constructing tanks, because it is durable. It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the tank form web framed steel as called for in claim 23, in order to make it durable; with regards to the limitation of "being stable for open water tow": Hix shows a cylindrical shape similar to applicant's; thus it would inherently be stable for open water tow.

Response to Arguments

3. Applicant's arguments with respect to claims 1-26, and 30 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments regarding claims 27-29 have been considered, but are not persuasive. Applicant's arguments are based on the premise that figure 4 of Anderson could not apply, because figure 4 fails to show the hawser below the surface; however, it is noted that the features upon which applicant relies (i.e., the hawser below the water

surface) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on M-F 6:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703)308-2978. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3597 for regular communications and (703)305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-4177.

John Kreck
Examiner
Art Unit 3673

JJK
March 13, 2003